

## 10.

The Psammocharidae (Hymenoptera) Taken at Kartabo  
and Other Localities in British Guiana.<sup>1</sup>

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[During the eight years of occupancy, by the Department of Tropical Research, of the New York Zoological Society's Station at Kartabo, British Guiana, extensive collections of insects were made. Most of these were taken in the quarter-mile area under intensive study—what may be called the Guiana Junglezone. Details and a general summary of this area may be found in "Studies of a Tropical Jungle," *Zoologica*, Vol. VI, No. 1.]

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## INTRODUCTION.

During his trips to the Tropical Research Laboratory of the New York Zoological Society at Kartabo, British Guiana, Dr. William Beebe collected many specimens of Psammocharidae. These, together with specimens from Cornell University and those in the Museum of Comparative Zoology, form the basis of this paper.

There are but few records of these insects from this country. In 1848 W. F. Erichson published seven species in Schomburgk's *Reise in Guiana*; in 1913 Peter Cameron recorded or described 23 species in the *Jr. R. Agric. Soc. of Demerara*—and in 1928 F. X. Williams in his *Studies in Tropical Wasps* recorded three species. Many of the species described by Fabricius from "Amer. merid." were probably from this general region. In the revision of the genus *Pepsis* by Lucas in 1895, there are hardly any records except those of Erichson. Since so

<sup>1</sup>Contribution No. 692, Department of Tropical Research, New York Zoological Society.

little has been published and much of it many years ago it is evident that there will be many new genera as well as species.

In this paper 86 species are recorded; two of Cameron have not been identified. This is probably not half that occur in British Guiana. Fifteen species appear to be new, several in new genera. But one species, *Notiochares amethystina*, is widely distributed in tropical South America, but nearly all the previously described species are known from localities in northern South America and Brazil; several are also known from Peru and Bolivia, almost none from Paraguay or Argentina. Two, *Pepsis ruficornis* and *Priochilus opacifrons*, are recorded from the West Indies.

In 1897 William Fox described the Brazilian species collected by H. H. Smith; this work has been most useful to me, and three years ago I studied this collection in the Carnegie Museum, made many notes thereon, synoptic tables of the species, and comparisons with the types.

The material sent by Dr. Beebe was taken mostly at the Tropical Research Laboratory at Kartabo, but other specimens are from the Penal Settlement, Kaieteur, Kalacoon, Kangaruma, Arakaka, Mt. Everard, Georgetown, and west bank of the Demerara River.

The Cornell material from British Guiana is mostly from Bartica, but many from Demerara River, others from Kartabo, Kaieteur, Penal Settlement, Georgetown, Tumatumari on Potaro River, and Rockstone, Essequibo River, mostly taken by H. L. Parish, others by Prof. Forbes and Dr. Babi. The Museum of Comparative Zoology material is chiefly from Kartabo, taken by Dr. W. M. Wheeler, others from Bartica. H. Lang took specimens at Kama-kusa and Georgetown which were presented by Dr. J. Bequaert. Dr. N. A. Weber gave a number captured at a Forest Settlement on the Mazaruni River, and from J. Ogilvie a few were obtained taken at the source of the Essequibo River.

SYNOPSIS OF THE SUBFAMILIES.

- 1. Labrum wholly exposed, and often as long as the clypeus; no hairs or bristles on the basal parts of maxillae; no groove on second ventral segment; no separated hind border to the propodeum. In the fore wing the first recurrent vein ends beyond the basal third of second submarginal cell and no pocket in base of second discoidal cell; in hind wing the anal vein ends before the origin of the radial sector. Legs with very small short spines, hind tibiae never with teeth or carina above; claws cleft..... 2  
Labrum partly hidden under clypeus,

- if (some *Pepsis*) it is wholly visible, then the first recurrent vein ends before end of basal third of second submarginal cell and the anal in hind wing ends as far out as origin of radial sector..... 3
- 2. Inner margin of eyes emarginate above middle; face much narrowed below; propodeal spiracle about its length from the base of propodeum; often spines on under side of last joint of mid- and hind tarsi.....*Ceratopalinæ*  
Inner margin of eyes not emarginate; face but little narrowed below; propodeal spiracle twice its length from the base of propodeum; no spines on under side of last joint of mid- and hind tarsi .....*Notocyphinae*
- 3. In fore wing first recurrent vein ends before end of basal third of second submarginal cell, and in hind wing the anal vein ends as far out as origin of radial sector; basal parts of maxillae and the mentum lack hairs or bristles; second ventral segment in females at least with a transverse groove; hind tibia of female spined and toothed above; hind basitarsus of male compressed; claws never cleft; under side of last joint of mid- and hind tarsi with lateral spines (at least in female) .....*Pepsinae*  
In fore wing the first recurrent vein ends beyond the basal third of second submarginal cell, (exceptions rare), and in hind wing the anal ends before the origin of the radial sector; basal parts of the maxillae or the mentum usually with hairs or bristles..... 4
- 4. No pocket in base of second discoidal cell; second ventral segment, at least in female, with a transverse groove or impression; last joint of mid- and hind tarsi sometimes with lateral spines; spines at tip of the hind tibia if noticeable are short and nearly parallel.... 5  
A pocket in base of second discoidal cell; no groove on second ventral segment; hind tibia never with teeth or a carina above; spines at tip of hind tibia moderately long and inner one divergent; usually minute spine-pits above on hind femora near its tip; last joint of mid- and hind tarsi may have median spines below but not lateral ones; female sometimes with a comb on front tarsi; claws toothed or cleft; a separated hind border to propodeum .....*Psammocharinae*
- 5. Last joint of mid- and hind tarsi often with spines below, usually lateral; hind tibia often toothed above or with a carina; claws toothed or cleft; hind basitarsus of male not compressed;

base of abdomen rather flat at connection with propodeum, the first segment may be tapering, but not petiolate ..... *Cryptochilinae*

Last joint of hind tarsus usually bare beneath, rarely weak spines or bristles; claws never cleft; hind tibia never with teeth above or a carina, legs rarely hairy or bristly; no spine-pits on hind femora; abdomen attached by a distinct petiole ..... *Pseudageninae*

The subfamily Ceratopalinae was not represented in the collection.

#### PEPSINAE.

At present this includes but one genus, *Pepsis*, although it will be divided into several in the future.

#### SYNOPSIS OF *Pepsis*.

1. Wings entirely deep black, without even a pale margin ..... 2
- Wings not entirely deep black, a pale margin or bands, or mostly rufous or brown ..... 14
2. Antennae black, at most the extreme tip sometimes rufous ..... 3
- Antennae with at least several apical joints rufous or yellowish ..... 6
3. Propodeum very hairy and at the turn from basal to apical part with a crest of dense shaggy hair; wings not especially iridescent; mesosternal tubercle some distance from mid-coxal slope ..... *elevata*
- Propodeum without a crest of shaggy hair; mesosternal tubercle at beginning of mid-coxal slope; wings plainly iridescent ..... 4
4. Wings beautifully iridescent violet to reddish, changing to bluish near tips and greenish in places; male with middle of fourth ventral with erect hairs denser on sides and with incurving tips ..... *margarete*
- Wings iridescent bluish ..... 5
5. Male with a large patch of long, erect hair on middle of fourth ventral segment ..... *fulgidipennis*
- Male with middle of fourth and most of fifth ventral segment smooth and shining, but on each side a dense row of incurving hairs ..... *nireus*
6. Antennae rufous or yellowish from base of third joint to tip ..... 7
- Antennae rufous from tip of third joint or beyond; mid-ridge of propodeum low or absent ..... 11
7. Antennae pale yellow ..... 8
- Antennae rufous or orange-red ..... 9
8. Male with a row of hairs on each side of posterior part of fourth segment ..... *luteicornis*
- Male with a few hairs on each side of anterior part of fourth segment ..... *flavicornis*
9. Body extremely hairy above and below, except above on abdomen; especially long on propodeum; clypeus with long hairs on basal part as well as apical ..... *xanthocerus*
- Body but little hairy, on clypeus only on lower part ..... 10
10. Propodeum with considerable long hair; teeth on hind tibia above well separated and tips rather blunt ..... *ruficornis*
- Propodeum scarcely at all hairy above; teeth on hind tibia above pointed and but little separated ..... *excelsa*
11. Rufous begins on the fourth or fifth joint; wings often hardly deep black ..... 12
- Rufous begins on the sixth, seventh or eighth joint. Wings somewhat brownish ..... 13
12. Basal and apical parts of propodeum plainly separated by a low mid-ridge; wings with a bluish to violet iridescence; length of fore wing about 30 millimeters; tibial teeth rather small ..... *ianthina*
- Basal and apical parts of propodeum not separated, no mid-ridge; wings not iridescent; fore wing about 20 millimeters long; teeth on hind tibia very small ..... *vicina*
13. No distinct mid-ridge on propodeum; five or six joints of antennae pale; third cubital cell little longer than broad ..... *sagana*
- A low but distinct mid-ridge on propodeum; four joints of antennae pale; third cubital cell much longer than broad ..... *diabolus*
14. Wings almost wholly rufous or yellowish-red, no broad dark border; antennae almost wholly rufous ..... 15
- Wings with at least about half brown or black ..... 18
15. Head and thorax with golden pubescence; mesosternal tubercle some distance before the mid-coxal slope ..... *plutus*
- No golden hair; mesosternal tubercle usually at coxal slope ..... 16
16. Head with very high vertex, and back of eyes is longer than width of an eye; labrum often wholly visible ..... *frivaldszkyi*
- Head not extended back of eyes to any such extent; vertex normal ..... 17
17. Fore wings with darkened apical border ..... *hecate*

- Fore wings not darkened apically....  
..... *gracilis*
18. Almost apical half of wing yellowish, basal part black; antennae black; teeth on hind tibia very small..... *strenua*  
Apical half not yellowish..... 19
19. Wings wholly brown or blackish-brown ..... 20  
Wings mostly black, but with some yellowish, rufous, white or hyaline..... 21
20. Wings brown to dark brown, about nine joints of antennae pale; a low but distinct mid-ridge ..... *niphe*  
Wings blackish-brown; no mid-ridge ..... no. 12, 13
21. Antennae black; fore wing marked with hyaline or white at tip or base. 22  
Antennae partly rufous, two to six joints; wings yellowish on basal part ..... 25
22. White at base of wings, and tips narrowly ..... *equestris*  
No white at base of wings..... 23
23. A broad white apical band, fully one-fourth length of wing..... *pretiosa*  
A narrow apical border hyaline or whitish ..... 24
24. At tip of both fore and hind wings; mid-ridge high ..... *grossa*  
A spot at tip only on hind wings; mid-ridge very low..... *ivcunda*
25. The yellowish band separated from base by an equally broad black band; five or six joints of antennae pale ..... *completa*  
The yellowish occupying basal half of both fore and hind wings, scarcely any black before it..... 26
26. Antennae with five or six joints rufous; not over one-half of wings yellowish; male with a brush on tip of fourth ventral segment..... *dimidiata*  
Antennae with but two or three joints pale; about three-fourths of wing yellowish, male with a tuft of hairs with incurved tips on each side of fourth ventral segment ..... *festiva*

## PEPSINAE.

*Pepsis frivaldszkyi* Mocz.

One from sources of Rio Essequibo (J. Ogilvie). Also recorded from Para, Brazil.

This species has the vertex raised and the head extended back of eyes, and the lip is wholly visible, about as in *Notocyphus*; mesosternum densely long-haired; mesosternal tubercle a little before the coxal slope, low and broad, hind tibia has small triangular teeth, well separated, the spines scarcely if any longer than teeth, but the slightly curved bristles are longer.

*Pepsis strenua* Erichs.

From Kartabo, March 1; Georgetown, February 15; Forest Settlement, Mazaruni River, August.

The mesosternal tubercle is at base of coxal slope, broad and low.

*Pepsis plutus* Erichs.

Penal Settlement, No. Hym. 287; Kartabo, March 3, June 30; Forest Settlement, Mazaruni River, August-September. Also recorded from Para, Brazil.

Mesosternal tubercle about at middle of mesosternum, long before coxal slope.

*Pepsis grossa* Fabr.

One from Kalacoon, No. Hym. 43. Also recorded from Colombia and Brazil. Mesosternal tubercle a little more than half way to end of mesosternum, fairly large.

*Pepsis elevata* Fabr.

Kartabo, January 23, June 13. No. Hym. 256. Also recorded from Cayenne and Brazil.

Mesosternal tubercle at about one-third the length of mesosternum before tip, rather large.

*Pepsis fulgidipennis* Mocz.

Bartica, August 17, June 11; Kartabo, No. 20,136; Arakaka, December 21. Also recorded from Colombia, Venezuela, Surinam and Brazil.

Mesosternal tubercle at base of coxal slope, but this is very short; prominent and almost visible from above.

*Pepsis margarete* Lucas.

Arakaka, December 20, 21 (mostly males); Waratuk, February 16. Also recorded from Panama, Colombia, Venezuela and Brazil and Kartabo.

Mesosternal tubercle near coxal slope, not prominent.

*Pepsis niphe* Mocz.

One female from Kartabo, May 8. Also recorded from Obydos, Brazil.

Mesosternal tubercle at base of coxal slope.

*Pepsis excelsa* Lucas.

Kartabo, March 1, June 30, October 8, No. 201255; Arakaka, December 20; Georgetown, February 15; Demerara River, January 5; Bartica; Kalacoon No. 52; Penal Settlement, No. Hym. 226, September 20; and Rio Mazaruni, August. Also recorded from Brazil.

The mesosternal hump is visible from above, and near coxal slope the teeth on hind tibia are large, sharp pointed, and rather close together, quite different from the widely separated, smaller teeth in *P. ruficornis*.

***Pepsis xanthocerus* Dahlb.**

From Kartabo, May 22, July; Bartica, April 15, May 20; Kaieteur, August 4; Upper Essequibo River (Rucker & Romitti), February 24. Also recorded from Brazil.

The mesosternal tubercle is situate near the coxal slope. It is quite possible that this is the *ruficornis* of Fabricius rather than the form called *ruficornis* by Lucas.

A male from Mackenzie, Demerara River, June 22 (Cornell), is probably this species. It is black, antennae rufous from base of second flagellar joint, venation similar to female, but the third submarginal cell a little shorter. Head, thorax and propodeum very hairy as in the female. The tibia and tarsus of hind leg are compressed and fringed, the basitarsus more than in *luteicornis*. On the middle of the fourth ventral segment is a mass of erect, fairly long hair, leaving the extreme hind border of segment smooth; on the hind part of the fifth ventrite is a row (two or three deep) of erect hairs, about one-half as long as those on the fourth, hardly dense enough to be a "comb," and with fewer hairs in the middle; subgenital plate rather short and broadly rounded at tip, its apical half with fine, dense appressed pubescence.

***Pepsis ruficornis* Fabr.**

Females from Kartabo, May 3, 6, April 20. Also recorded from Cuba, Haiti, Porto Rico, Honduras, Colombia and Cayenne.

Mesosternal tubercle near coxal slope.

***Pepsis luteicornis* Fabr.**

Kartabo, March 11, May 27, June 14, July-August, No. 130,179; Arakaka, December 21, and West bank Demerara River, February 9; all males. Also recorded from Colombia, Surinam and Brazil.

***Pepsis flavicornis* Moc.**

One male from Kamakusa. Also recorded from Brazil.

***Pepsis ianthina* Erichs.**

Kartabo, June 5, July 8, August 6; Bartica, December 23. Also recorded from Panama, Surinam and Brazil.

Mesosternal tubercle a little before coxal slope, elevated, prominent, and projects a little laterally.

***Pepsis sagana* Lucas.**

Kartabo, January 11, March 23, summer of 1923, No. 21104. Also recorded from Brazil.

Mesosternal tubercle placed laterally at base of coxal slope, prominent.

***Pepsis vicina* Lucas.**

Kartabo, May 28, April 14. Also recorded from Surinam.

Mesosternal tubercle near coxal slope, but

not as lateral as in *P. sagana*. The teeth on hind tibia are very small, much smaller than in *sagana*.

***Pepsis iucunda* Lucas.**

From Kartabo, July 21, and October; Forest Settlement, Mazaruni River, August-September. Also recorded from Surinam.

The male has the tip of hind wings pale as in female; the fourth ventrite has on each side an oblique, rather dense row of hairs curving toward each other, the enclosed area smooth behind, punctate in front and with some short erect hairs; fifth segment punctate, more densely so on sides and with erect hair most noticeable on sides. Subgenital plate rather short, rounded at tip, with some fine hair on surface.

***Pepsis dimidiata* Fabr.**

Kangaruma, February 15; Kaieteur, February 18, March 24, and Bartica District.

All of the specimens seen from British Guiana as well as those from French Guiana and Surinam have the yellowish band scarcely beyond the hyaline spot of second discoidal cell, while those from Colombia have this band extending plainly beyond the hyaline spot; the hair brushes of males are the same. The mesosternal tubercle prominent, tip rounded, situate at base of coxal slope, projects a little laterally. Also recorded from Panama, Colombia and Brazil.

***Pepsis completa* Sm.**

From Kalacoon, No. 227. Also recorded from Brazil.

Mesosternal tubercle small, at base of coxal slope, projecting somewhat laterally.

***Pepsis pretiosa* Dahlb.**

Kartabo, one male, No. 131. Also recorded from Caracas, Venezuela and Brazil.

***Pepsis equestris* Erichs.**

Described from British Guiana; have seen none in these collections but many from Colombia, Trinidad and Brazil.

***Pepsis diabolus* Lucas?**

A female from Kartabo, May 24, runs to this in the Lucas tables but does not agree very well with description. Also recorded from Brazil.

***Pepsis* sp. near *ruficornis*.**

Female from Kartabo, June 7.

In size and appearance much like *P. ruficornis*; however, there is a pale yellowish area in hind wing from end of basal fourth to little beyond middle; the antennae are rufous from base of fourth joint; on the propodeum the striae are fairly even and rather numerous; a small mid-ridge, and small lateral tubercles; the mesosternal tubercle at base of coxal slope, rather large, and projecting somewhat laterally. On hind

tibia the teeth are larger than in *ruficornis*, triangular, and closer together. The color is a brighter blue than *ruficornis*.

***Pepsis hecate* Mocz.**

A female from Tumatumari, Potaro River, June 28. Also recorded from Brazil.

Mesosternal tubercle of good size, at base of slope, but the slope is longer than usual.

***Pepsis gracilis* Lepell.**

One from Bartica, March 4, which I identify as this species not recognized in the Lucas monograph. It was described from Cayenne. A slender black species with reddish wings; quite hairy on head, front coxae and pleura; mesosternum with only short hair; the tubercle at base of coxal slope, tip rounded. Striae on propodeum fairly regular, no mid-ridge, lateral tubercles rather sharp and prominent; hind tibia above with small sloping teeth; not as far apart as in *ruficornis*, spines also sloping, little longer than teeth; third submarginal cell about as in the Lucas figure 131.

***Pepsis* sp. near *smaragdina*.**

One from Arakaka, December 21.

***Pepsis nireus* Mocz.**

A male from Forest Settlement, Rio Marazuni, August-September. Also recorded from Brazil.

***Pepsis festiva* Fabr.**

*Pepsis thalassina* Erichs., described from British Guiana, is a synonym, but no specimens in these collections. Also recorded from Surinam and Brazil.

**CRYPTOCHEILINAE.**

Table of genera.

- 1. Claws bifid, no lateral spines to last joint of mid- and hind tarsi; basal vein interstitial or only a little before transverse ..... 2
- Claws toothed ..... 3
- 2. Last joint of mid- and hind tarsi with a median row of spines; last segment of abdomen not compressed, antennae situate well above clypeus, distinctly slender toward tip; pronotum very short, hardly any dorsal part.....
- ..... *Priochilus*
- No spines on last joint of mid- and hind tarsi; last segment of abdomen compressed; antennae close to clypeal margin, distinctly somewhat clavate; pronotum moderately long, the distinct dorsal part nearly or quite flat, the front part vertical or almost so.....
- ..... *Balboana*
- 3. No lateral spines to last joint of mid- and hind tarsi; hind tibiae with more

or less distinct teeth above. *Priocnemis*  
Distinct lateral spines to last joint of mid- and hind tarsi..... 4

- 4. A stout slightly curved spine or tooth in front of each mid-coxa; venter of female (sometimes male) swollen, or with raised areas, or teat-like processes ..... *Priocnemioides*
- No such spine in front of mid-coxae; venter not modified; joints of flagellum moderately long; clypeus truncate ..... *Calopompilus*

***Priocnemis (Calicurgus) nubilus* Fox.**

Bartica, February 12, 24, May 26; Kartabo, July 19, December, 1920. *Priocnemis sericeicornatus* Cameron is, I believe, the same species.

***Calopompilus vitreus* Fox.**

Kartabo, October 30. Also recorded from Rio, Brazil.

It has a much shorter pronotum than the typical North American forms and is much less hairy.

***Priocnemioides* Radoszkowski.**

This was separated from *Priocnemis* because the third antennal joint was about as short as those beyond, and the hind tibiae were said to have two rows of strong spines above. He included two described species, *Pompilus fulvicornis* Cresson and *P. flammipennis* Smith, and described a new species which he supposed to be from Spain.

Later Schulz noted that these species had two raised, somewhat teat-like, areas on the ventral side of the second segment. The length of the third antennal joint is plainly longer in some forms, otherwise similar, and which have very distinct ventral teats. Moreover the second ventral varies in shape of the raised areas, sometimes a broad curved ridge, sometimes two flat areas; but in all these forms there is a distinct somewhat curved tooth or spine in front of each mid-coxa, this is not present in the genotype of *Cryptochilus*, nor in genotype of *Salius*, nor do these genera have the modified second ventral segment.

I select *Pompilus fulvicornis* Cresson as the genotype. There are many species in South America.

The five species I have seen from British Guiana are readily separable as follows:

- 1. Wings black or nearly so..... 2
- Wings yellowish ..... 3
- 2. Head and thorax with golden pile.....
- ..... *aurifrons*
- Head and thorax without golden pile ..... *bituberculatus*
- 3. Head and thorax with much golden pubescence ..... *gigas*
- Head and thorax not golden, black. 4

4. Body more or less purple, also much of the legs.....*purpureipes*  
 Body black, no purple, abdomen above somewhat punctate; vertex coarsely punctate ..... *perpunctatus*

***Priocnemioides gigas* Fabr.**

Kartabo, No. 20593; April 29, March 3, 5, Penal Settlement, Kartabo, July, No. 192. Bartica, February 11. *Priocnemis croesus* Smith is, I believe, a synonym. Also recorded from Brazil.

***Priocnemioides perpunctatus* Fox.**

Kartabo, April 14. Also recorded from Brazil.

***Priocnemioides purpureipes* Cam.**

Kalacoon, Georgetown, November 10; No. Hym. 251,280. Described from Demerara.

***Priocnemioides bituberculatus* Guer.**

A male from Kamakusa which I presume is the male of this species. It is not the male of *mammillatus*; in the latter species the subgenital plate is less broad than in this specimen. In both species this plate and the preceding segment are clothed with short, erect black hair; the ventral segments are punctate; in *mammillatus* the punctures are as dense in the middle of the segment as on sides, in this specimen there are few or none in the middle, but plenty on each side. In the hind wing the anal vein ends at forking of cubitus. The black on antennae extends only to tip of third joint; the body is black, without a blue tinge; the hair below the hind basitarsus is as short as in *mammillatus*. *Salius tuberculiventris* Cameron from Demerara is probably a synonym of *bituberculatus*.

***Priocnemioides aurifrons* sp. nov.**

Black, clypeus and face densely covered with golden pubescence, also, but scarcely as bright, on pleura, coxae, middle of mesonotum, scutellum, metanotum, and over entire propodeum, less distinctly on upper side of basal segment of abdomen. Wings dark brown, with a reddish iridescence, a little darker than in *tinctipennis*, tip narrowly pale; antennae black to end of fourth joint, upper side of fifth and partially on sixth, beyond rufous to yellowish, but last three joints brown.

Structure much like other species; clypeus rather deeply emarginate below; ocelli in low triangle, hind ocelli almost twice as near each other as to the eyes; vertex-width almost equal to third antennal joint, latter longer than fourth; propodeum coarsely ridged in posterior part, more coarsely than in *mammillatus* or *bituberculatus*; second ventral segment with a narrow raised area each side behind; subgenital plate about as broad as in *mammillatus*, with short dense

erect hair, and also on the preceding segment, but others with only scattered long hairs.

Front femora with some short, fine hairs above; hind tibia with rows of short spines much as other species, but those above very numerous and fine; inner spur of hind tibia about one-third of basitarsus, latter with a longer and denser fringe than in other dark-winged species.

Venation about as usual; the first recurrent vein, however, ends further from tip of second submarginal cell than usual, the second recurrent angulate near middle, ending much before middle of third submarginal cell, the latter much longer than the second; in hind wings the anal vein ends just beyond the forking of cubitus.

Length of fore wing 20 mm.

One male from Demerara River, March 20 (Cornell).

***Balboana fulvipes* sp. nov.**

Head, thorax, propodeum, and abdomen dull black; tip of abdomen and sides of first segment fulvous; antennae black, but basal joint fulvous below; legs fulvous, coxae also, tips of tarsal joints dark, spurs white; palpi pale. Fore wings hyaline, with two narrow black bands, one over basal and transverse veins, other occupying base of marginal, all of second and third submarginal, and upper part of third discoidal cells; hind wings hyaline. Clypeus about four times as broad as long, slightly convex below, surface with short hair; face scarcely narrowed above, ocelli in a broad triangle, lateral ocelli about as close to eyes as to each other; antennae plainly a little thickened toward tip; third joint not longer than fourth; pronotum arcuate behind; propodeum finely transversely rugulose, no median groove; abdomen rather slender, compressed at tip, last two segments hairy, venter with a few erect hairs. Head, thorax and abdomen mostly covered with very short, appressed white hair.

Legs smooth on femora and tibiae, hind tibia has about eight or ten short fine bristles above, one or two on the sides, inner spur nearly equal to one-half of the basitarsus.

Fore wings rather short, but slender, the marginal cell long, widest at end of second submarginal cell, from there sloping to acute tip, not one-half its length from wing-tip; second submarginal cell about as high as long, both ends oblique, receiving the first recurrent at basal third; third submarginal fully three times its length from outer margin, a little longer than the second, narrowed about one-third above, outer side very oblique, receiving the second recurrent (strongly bent outward at middle) at about middle; lower basal vein slightly bowed for-

ward near end, meeting end of transversè, which is not oblique, in hind wings the anal ends much before forking of cubitus.

Length of fore wings 6 mm.

One from Kartabo, July-August.

Much smaller, and with less spiny legs and the dorsal part of pronotum longer than in typical *Balboana*, but agreeing in the clavate antennae, compressed tip of abdomen, antennae at clypeal margin and venation. There are several other species of this genus in South America.

**Balboana auripennis** Fabr.

Kartabo, April 16, June 1, November 4, March 13, 17, September 26; Bartica, December 2. Also recorded from Brazil. The description of *Pompilus moorei* Cam. from Demerara fits *auripennis*.

**Priochilus.**

This is agenoid in form, but larger and readily separated by the cleft claws and the median row of spines below on last joint of mid- and hind tarsi; in the smaller species these spines may be reduced to one or two. Moreover in the larger specimens there are one or two very small but distinct spine-pits on the hind femora toward tip. This with the tarsal armature would place the genus in the *Psammocharinae*, but there is no real "pocket" in the base of third discoidal cell. The hind tibiae have larger spines than in *Pseudogenia* and allies, mostly in one or two rows, in or near a carina. The venation is much like those *Pseudogenias* with a long third submarginal cell, but it is wider at tip; in hind wing the anal ends at or very near forking of cubitus; the basal segment of abdomen is not petiolate, and no distinct groove on the second ventral segment, but the segment is transversely impressed where the groove would be if present.

Type, *Pompilus nobilis* Fabr.

Includes at least fifteen or twenty neotropical species which were placed in *Agenia* or *Salius*.

**FEMALES.**

- 1. Fore wings black..... 2  
Fore wings pale, clouded or banded with dark ..... 6
- 2. Face, thorax, propodeum and abdomen with much silvery, propodeum hairy behind ..... 3  
Face silvery, little elsewhere..... 4
- 3. Mesosternum projecting laterally in an almost cone-like hump; carina of hind tibia slightly undulate, upper spines very short; mid-tibia enlarged and with many short spines, second submarginal cell much longer than high ..... *superbus*

Mesosternum not projecting cone-like; carina of hind tibia not undulate, some upper spines nearly as long as width of joint, mid-tibiae slender, with fewer and longer spines; second submarginal cell only a little longer than high....

- ..... *regius*
- 4. Second submarginal cell only a little if any longer than high, both ends oblique, propodeum hairy, face somewhat silvery ..... *rhomboideus*  
Second submarginal cell plainly longer than high, ends less oblique..... 5
- 5. Propodeum with long black hair above; clypeus very hairy all over, margin not polished; second submarginal cell almost twice as long as high, third submarginal very wide at tip; anal in hind wings ends beyond forking of cubitus ..... *imperius*  
Propodeum with only very short fine hair, hardly noticeable; clypeus with only a few hairs in a row, margin polished, shining; second submarginal cell about one and one-half times as long as high, third submarginal cell not so wide at tip; anal in hind wings at forking of cubitus ..... *plutonis*
- 6. Abdomen yellowish-brown; propodeum not hairy above; outer dark band on fore wings very broad, inner band extended basally..... *formosus*  
Abdomen black ..... 7
- 7. Propodeum hairy above, narrowly silvery at base, broadly behind; wing hyaline between the bands, large species ..... *nobilis*  
Propodeum not hairy, and little if any silvery, second submarginal cell often higher than long..... 8
- 8. Propodeum transversely striate behind; front with somewhat golden pubescence ..... *sericeifrons*  
Propodeum not striate..... 9
- 9. No silvery nor golden at sides of scutellum; front opaque black, small species ..... *opacifrons*  
A silvery spot at each side of scutellum ..... 10
- 10. Fore wings yellowish between the bands, no golden pubescence on front or notum ..... *scrupulus*  
Fore wings hyaline between bands, some golden pubescence on front and notum ..... *diversus*

**Priochilus regius** Fabr.

Kartabo, March 4, April 28, August, Nos. 146, 218, 1929, 20213, 20462, 201297; Kamakusa, September, Forest Settlement, Rio Mazaruni August; Kalacoon; February 8, January 21, March 4; Penal Settlement, Oc-



tober 7; Demerara River, March 10, 18. Also recorded from Brazil.

***Priochilus rhomboideus* Fox.**

Bartica, March 5, May 8, 21, 24; Bartica, January 25; Arakaka, December 21; Tures Falls, October 11; Mt. Everard, November 15; Georgetown, November 10, 15; Demerara River, March 8, 24. Also recorded from Brazil.

***Priochilus nobilis* Fabr.**

Kartabo, April 4; Bartica, February 18, April 15; Tropical Research Laboratory. Also recorded from Brazil. *Pompilus cosmopteryx* Cam. appears to be a synonym.

***Priochilus scrupulus* Fox.**

Kartabo, August, Nos. 20558, 21139. Also recorded from Brazil.

***Priochilus diversus* Sm.**

Kamakusa, September. Also recorded from Brazil.

***Priochilus sericeifrons* Fox.**

Bartica, January 28, February 4. *Pompilus harperi* Cam. appears to be this species; it is from Demerara. Also recorded from Brazil.

***Priochilus opacifrons* Fox.**

Bartica, January 29, February 5, March 5, April 3, 14, July, Hym. 306. December 23; Demerara River, March 19, 20, 26, 29, Mackenzie, Demerara River, June 23. Described from island of Jamaica, but these specimens appear to be the same and Fox records it from Brazil.

***Priochilus imperius* sp. nov.**

Black throughout, no silvery on face or on the coxae; wings with violaceous and bluish reflections. Face and vertex rather more hairy than other species; propodeum with long hair, abdomen above hairy near tip, venter hairy on last four joints. In general structure similar to other species; antennae very slender, third joint much longer than width of vertex; ocelli in a low triangle, laterals nearer each other than to eyes; pronotum broadly arcuate behind; metanotum finely striate; propodeum evenly convex, pleura hairy; legs slender, not hairy; hind tibia with carina above which is faintly cut into sections, hardly teeth, the bristles not one-half diameter of hind tibia; last joint of hind tarsus with a median row of four or five rather large spines below; long spur of hind tibia not one-third of basitarsus.

In fore wings the marginal cell is very long, hardly one-half its length from wing-tip; second submarginal cell longer than high, its basal side more oblique, receiving the first recurrent at about one-fourth from

tip; third submarginal cell one-half longer below than the second, very much widened at tip, narrowed one-third above, the outer vein almost angulate in middle, receiving the second recurrent (faintly sinuous) near end of basal third.

In hind wings the anal ends close to the cubital fork, and the cross-vein is beyond the middle of radial sector.

Length of fore wing 22 mm.

Females, one Kamakusa (Lang) (Bequaert coll.) and other Kartabo, June 24 (Beebe), both British Guiana. It will not fit *pilifrons* Cam. (which does not belong to this genus) nor *dives* Lepell. (which may be a *Priochilus*), and is not in the H. H. Smith collection of Carnegie Museum.

Others from Kamakusa; Moengo Boven Cottaca R., Surinam, May 14; Rio Itaya, Amazon, Peru, December; Guayaquil, Ecuador, May-June (Brues); Santa Cruz, Bolivia (Steinbach); La Sombra, Peru.

***Priochilus superbus* sp. nov.**

In general very similar to *P. regius*, usually larger. Clypeus and face one-half way up to ocelli silvery; collar and lower sides of pronotum, propodeum above, apical half of basal abdominal segment, basal third of second, coxae and apex of the mesopleura strongly silvery. A spot each side at base of third segment, and more or less on fourth and fifth segments less strongly silvery. Wings deep black.

Structure in general much like *P. regius*, ocelli in a broader triangle, third antennal joint proportionally not as long as in *regius*; propodeum slightly, evenly convex, hairy, especially behind; the mesosternum in front of mid-coxae projects outward in a prominent cone (only bulging slightly in *regius*); venter more hairy than in *regius*.

The mid-tibiae are slightly enlarged, and with more numerous and shorter spines than in *regius*. In the fore wings the second submarginal cell is plainly longer than high, longer than in *regius*, otherwise venation similar.

Length of fore wing 15 to 18 mm.

Holotype from Kamakusa, September. Paratypes from Villavicencio, Colombia; Chounazu, Peru, July 9; and several from Iquitos San Rogue, Peru, February, March, May; Santa Cruz, Bolivia.

The slightly enlarged, more spinose mid-tibiae, as well as the swollen mesosternum near mid-coxae, readily distinguish it.

***Priochilus plutonius* sp. nov.**

Black, no silvery, wings somewhat violaceous. Clypeus short, very broad, truncate below, the margin polished and shining, a row of long bristles across clypeus, otherwise without hair; face bare, front with two long erect hairs each side near orbits; ocelli

in a moderately narrow triangle, hind ocelli little more than diameter apart, much farther from the eyes; antennae slender, the third joint very long, longer than vertex-width; pronotum with only a few short, fine hairs, angularly emarginate behind; mesonotum with one or two erect hairs each side.

Propodeum without hair, opaque; tip of abdomen hairy on last few segments, above with some stiff bristles; legs long and slender, mid-tibiae with two rows of spines above, the longest about one-half the diameter of the joint, hind tibiae with a row of very short spines above, but no distinct carina, some spines on outer side one-half diameter of joint, long spur not one-third of basitarsus. In the fore wings the marginal cell is very long and slender, sharp pointed at each end, and less than one-half its length from wing-tip; second submarginal cell hardly one-half longer than high, each end oblique, receiving the first recurrent vein at about one-fourth from tip; third submarginal cell about as long above as second, much longer below, outer side sloping, receiving the second recurrent (almost bent in middle) at about basal fourth; lower part of basal vein straight, ending a little before transverse vein, latter not oblique; in hind wings the anal vein ends at the cubital forking.

Length of fore wing 13 mm.

A female from Demerara, British Guiana, March 10 (Cornell).

*Priochilus formosus* sp. nov.

Black; abdomen brownish-yellow or rusty brown; wings hyaline, a broad brown band out from basal vein and behind the cubitus extending back almost to base of wing; a still broader brown band over most of marginal cell, over both second and third submarginals, and most of the third discoidal cell; hind wings with the tip brown. Face and clypeus only faintly silvery, also faintly behind on propodeum, coxae more strongly silvery.

Clypeus shaped much like that of *regius*, broadly truncate below; face a little narrowed above, third antennal joint equal to vertex-width, and much longer than the fourth joint; median groove reaching anterior ocellus, hind ocelli hardly more than diameter apart, much farther from the eyes, a few long hairs in a row across clypeus, and two erect bristles each side by upper orbits, mesonotum and scutellum also with few hairs, more on the propodeum.

Pronotum broadly arcuate behind; propodeum with a rather broad median groove, from side propodeum shows an even slope, hardly convex.

Basal segment of abdomen from above with almost straight sides; tip of abdomen

above and below with fine hairs, some above are stiff.

Legs moderately slender; hind tibia with the longest spines about one-half diameter of the joint, inner spur not one-third of basitarsus.

Fore wings with marginal cell long, at widest no broader than second submarginal, nearly equally pointed at each end, hardly half its length from wing-tip; second submarginal one and one-half times as long as high, both ends oblique, receiving the first recurrent a little before tip, third submarginal scarcely longer than second above, but longer below, receiving the second recurrent (slightly sinuous) at before end of basal third; lower part of basal vein straight, ending scarcely before the transverse, which is hardly oblique; in hind wing the anal vein ends much before the forking of cubitus.

Length of fore wing 13 to 15 mm.

Holotype from Kamakusa, British Guiana, paratype from El Campanentus, Col. Parene, Peru, July 1 (Cornell). It differs in many points from *abdominalis* Sm.

PSEUDAGENINAE.

Table of genera.

1. Mid- and hind tarsi with bristles and spines on lateral edges of last joint; hind tibia with only small spines above, and indistinct carina..... *Phanocheilus*  
Mid- and hind tarsi without spines under last joint or not laterally..... 2
2. Hind tibia with teeth above (sometimes very small); antennae situate hardly diameter of basal joint above clypeus ..... 5  
Hind tibia without teeth..... 3
3. Propodeum without hair; rarely a distinct "beard," sometimes a few short hairs; claws toothed..... *Ageniella*  
Propodeum more or less hairy; usually a distinct "beard," several long stout bristles ..... 4
4. Usually a carina above on hind tibia, and one or more rows of short spines; antennae situate rather high above clypeus; anal vein of hind wings ends beyond or at forking of cubitus.....  
..... *Priocnemella*  
No carina, few spines on hind tibia; in hind wings anal vein ends before the forking of cubitus ..... *Pseudagenia*
5. A distinct "beard" under the head  
..... *Alasagenia*  
No "beard" under head..... *Priophanes*

*Alasagenia* gen. nov.

Abdomen with distinct petiole; venation as in *Pseudagenia*; a beard of six or more

rather long hairs under head; in a transverse row last joint of mid- and hind tarsi bare beneath; claws toothed; basal vein ends before the transverse; in hind wings anal vein ends before forking of cubitus; hind tibia with a row of distinct teeth above, and on each side a row of short bristles.

Type *A. erichsoni* sp. nov.

Some species from the United States have been put in *Prionemis*, but differ in the petiolate abdomen.

*Alasagenia erichsoni* sp. nov.

Body, antennae and legs deep black, clypeus and sides of face strongly silvery, a silvery spot each side on hind border of pronotum, also the hind border of mesonotum, sides of metanotum, a large square silvery spot each side on posterior slope of propodeum and the base also silvery; also silvery spots on the pleura, front coxae, part of basal abdominal segment, a large spot each side on second segment, basal half of third, and less distinctly across fourth and fifth.

Fore wings hyaline, a narrow dark band over basal and transverse veins, a broader band beyond stigma, but not quite reaching across third discoidal cell, tip plainly brownish; in hind wing the tip is smoky. Head, thorax, propodeum with much fine pale hair, and some longer, erect ones.

Clypeus nearly three times as broad as long, lower margin evenly, but slightly, concave, rather closely parallel to upper edge; face only a little narrowed above, vertex-width hardly as long as second plus third antennal joints; hind ocelli about equally near each other and to eyes; pronotum slightly angulate behind; propodeum rather low, evenly convex, no distinct dorsal groove; basal abdominal segment with a little short hair on petiole above, some fine hair on last few segments, and a few on venter.

Legs with femora moderately stout, hind tibia above with a row of distinct teeth and an inner carina, the spines extremely short; inner spur of hind tibia not two-fifths of basitarsus.

In fore wings the marginal cell is long, not as broad as the second submarginal, less than two-thirds of its length from wing-tip; second submarginal cell but little longer than high, not longer above, receiving the first recurrent vein at apical third; third submarginal about twice as long as second, the outer side oblique and rather strongly curved on lower third, receiving the second recurrent (much bent near middle) at middle of cell, the cell about two-thirds its length from outer margin; basal vein ends much before the transverse, latter a little oblique; in hind wing the anal vein ends at forking of cubitus.

Length of fore wing 10 mm.

From Kartabo, February 28. Named for W. F. Erichson, who described many insects from British Guiana.

*Priophanes fabricii* sp. nov.

Head black, clypeus yellow, face with short white pile, most noticeable at orbits; thorax and propodeum rufous; abdomen shining black, second, third, and fourth segments with a large spot of silvery pubescence each side; antennae black; legs yellowish, femora somewhat brown above, hind tibiae rather darker, coxae and trochanters black. Fore wings hyaline, stigma brown, a narrow brown band over basal and transverse veins, a broader brown band beyond stigma, but not extending behind third discoidal cell, tip of wing slightly brown. Hind wings not marked. Clypeus about three times as long as broad almost pointed at each end, upper and lower edges nearly equally evenly convex; palpi especially third joint, very long. Face broadest in middle, more narrowed above than below, vertex-width longer than second plus third antennal joints; hind ocelli almost as near eyes as to each other; pronotum slightly angulate behind; propodeum evenly convexly sloping, posterior half with some long pale hairs, no median groove.

First segment of abdomen with pendent sides, tip with very fine hair, on venter a few short hairs; legs with femora very smooth, the hind tibiae with very minute, hardly visible teeth, the spines very short, black, three rows of them above, mid-tibia similar, inner spur of hind tibia fully two-fifths, but not one-half, of basitarsus.

In the fore wings the marginal cell is moderately long, about two-thirds its length from wing-tip, equally broad at ends of second and third submarginal cells; second submarginal cell nearly one and a half times as long as broad, both ends oblique, receiving the first recurrent vein before middle; the third submarginal about one-half its length from outer margin, above fully as long as the second submarginal, below one-third longer, outer end not strongly oblique, receiving the second recurrent (scarcely curved) before end of basal third; basal vein ends much before the transverse; in hind wing the anal vein ends before forking of cubitus.

Length of fore wing 6 mm.

Type from Kartabo, July-August. Two paratypes, one St. Augustine, Trinidad, March 23, other Restrepo, Dept. Meta, Colombia. The one from Trinidad has the hind ocelli a little nearer to each other than in type, and the Colombian specimen has the hind ocelli a little nearer eyes than in type. Named for J. C. Fabricius, who first described various species from this region.

**Phanochilus** gen. nov.

These have the general appearance of a large *Pseudagenia* or *Priochilus*, the basal abdominal segment being plainly petiolate and the venation is much like them; the basal vein is more separated than usual in *Pseudagenia*. In the hind wing the anal vein ends near or at forking of cubitus. The hind tibia may be toothed, or with a low carina which is broken by a row of very short spines; the last joint of mid- and hind tarsi have a few spines or bristles near each margin; the claws are toothed; the clypeus is often somewhat hexagonal; the head seen from above is rather quadrate, being much more swollen behind than usual; the mesopleura projects laterally, into a large cone-like swelling, readily seen from above.

Type *Agenia nobilitata* Smith.

**Phanochilus nobilitata** Sm.

Tropical Research Station No. 21265. Have also seen it from Rio Itaya, Amazonas, Peru.

The *Salvus fuscomarginatus* Fox is very similar, but a heavier insect and the malar space is much broader.

**Phanochilus gloriosa** Sm.

One male from Kartabo, July 16. Also recorded from Brazil. *Salvus aureodecoratus* Cam. described from Demerara, appears to be this species. I see no difference between this species and the male of *nobilitata* except the dark cloud in wing of *gloriosa*.

**Phanochilus pilifrons** Cam.

Described from Demerara; specimens examined are from Kamakusa, September, Bartica, January 31, and Rio Essequibo (J. Ogilvie).

**AGENIELLA.**

## Females.

1. Body wholly yellowish; wings hyaline, with a large black spot at tip.....*reversa*  
Body not wholly yellowish, wings with two dark bands..... 2
2. Thorax reddish, legs black, apical part of antennae pale.....*micans*  
Thorax, black, antennae partly yellowish .....*delila*

**Ageniella micans** Fabr.

Tumatumari, Potaro River, June 28, one male. The *Pseudagenia pulchricornis* Cam. described from Demerara is this species; I have also seen it from the Matto Grosso of Brazil.

**Ageniella reversa** Sm.

Tumatumari, Potaro River, June 29. Also recorded from Brazil.

**Ageniella delila** sp. nov.

Body, thorax, legs, abdomen dull black; antennae with basal joint pale beneath, beyond black to middle of sixth joint, thence yellowish; a small silvery to golden spot each side at end of propodeum. Wings hyaline, fore wings with a moderately broad straight brown band across over basal and transverse veins; another brown band over basal part of marginal, most of second submarginal, basal part of third submarginal, and apical part of third discoidal cells, no broader than the other band, tip of wings scarcely fumose; hind wings unmarked.

Clypeus about three times as broad as long, lower margin evenly rounded; ocelli in a small triangle, laterals much nearer to each other than to eyes; pronotum scarcely angulate behind; propodeum low, no median groove; abdomen petiolate, basal segment very slender just before attachment. No hairs on body except at tip of abdomen. Legs slender, smooth, mid- and hind tibiae with only extremely minute bristles above, inner spur of hind tibia about two-fifths of basitarsus.

Fore wings with marginal cell broad at end of second submarginal cell, fully twice as broad as the second submarginal, about two-thirds of its length from the wing-tip; second submarginal cell very small, slightly broader at base which is about two-thirds of its length, receiving the first recurrent vein at middle; third submarginal cell longer above than second below, and below twice as long as second, less than its length from outer margin, receiving the second recurrent (bent below middle) before end of basal third; basal vein ends a short distance before transverse; in hind wing the anal vein ends much before forking of cubitus.

Length fore wing 7.6 mm.

From Kartabo, July-August.

The male has a more slender body; is similar in color except that the antennae is yellowish, with the fifth, sixth, and seventh joints dark.

The clypeus is very broadly and deeply excavate on the lower margin and each end projects as a tooth; its surface has much short hair. The structure is also very similar to the female, but the basal abdominal segment is more slender, and with pendent sides; the mid- and hind tibiae have very minute spines on sides and above, the inner spur of hind tibia is a little longer, but does not reach middle of basitarsus; there are no hairs at tip of abdomen. The venation is also similar, but the marginal cell is not quite so broad, and the second submarginal broader, but no longer than in female.

Length 7 to 8 mm.

From Demerara River, March 10, 12, 18 (Cornell).

**PSEUDAGENIA.**

Females.

1. Mid- and hind femora black, mid-tibia rufous; clypeus hardly rufous below; pygidium black.....*incrota*  
At least hind femora reddish..... 2
2. Only hind femora reddish, thorax black .....*comparata*  
Other femora at least partly reddish or yellowish..... 3
3. Thorax plainly bluish or greenish, metallic ..... 4  
Thorax black above, dull; mid- and hind tibiae black or dark; pygidium black .....*smithi*
4. Mid- or hind tibiae more or less pale, thorax somewhat greenish; propodeum rather coarsely granulate, and on middle of basal part plainly transversely striate; pygidium dark .....*tarsata*  
Mid- and hind tibiae dark; propodeum only finely granulate, punctate behind, not striate above..... 5
5. Basal joint of antennae pale below; third antennal joint rather short, body rather slender; pygidium pale.....sp.  
Basal joint of antennae black below.....6
6. Thorax and propodeum more greenish; front and mid femora with much dark above especially toward base, pygidium brownish; propodeum with shorter hair, body rather slender.....sp.  
Thorax plainly bluish, femora wholly rufous, pygidium pale, propodeum with long white hair, body broader .....*femorata*

Two species I have not been able to identify, nor can I be sure they are new.

***Pseudagenia femorata* Fabr.**

From Demerara River, March 12, 22; Kartabo, March 10; No. 1925, May 7, No. 1925; Bartica, January 29, February 1. Also recorded from Brazil.

The basal vein ends plainly before transverse, latter scarcely oblique; third submarginal cell wider at tip than in *tarsata*; propodeum not coarsely granulate as in *tarsata*.

***Pseudagenia smithi* D. T.**

*Pseudagenia semisuavis* Cam. from Demerara, is probably a synonym of this species. I have none from British Guiana but from northeastern Colombia, and it is recorded from Brazil. Basal vein nearly interstitial with transverse, latter oblique.

***Pseudagenia tarsata* Sm.**

From Kartabo June 9, August 17.

Basal vein ends only a trifle before the transverse, latter very oblique.

***Pseudagenia modesta* Sm.**

Male from Bartica, February 10. Also recorded from Para, Brazil.

***Pseudagenia comparata* Sm.**

From Kartabo, Tumatumari, March 10, Nos. 20419; 1925; June 28. Also recorded from Para, Brazil.

***Pseudagenia basalis* Sm.**

Male from Bartica, February 26. Also recorded from Santarem, Brazil.

***Pseudagenia incrota* sp. nov.**

Black, clypeus and lower face with silvery pubescence, antennae dull yellowish, last few joints brown, basal and ringjoint nearly black; lower parts of pronotum silvery, and a silvery spot each side behind, four silvery patches on propodeum, the two at hind border the larger; abdomen with some fine whitish hairs near tip; wings hyaline, stigma black, venation brownish, tip of fore wing faintly brown; legs brown to nearly black, the front pair rufous to yellowish beyond femora, the mid-tibiae rufous, tarsi dull black, hind legs wholly dull black.

Clypeus rather short, broadly rounded below; antennae rather slender, second plus third joints not equal to vertex width, hind ocelli nearer to each other than to eyes; pronotum broadly concave behind; propodeum evenly convex, median line very faint, mesosternum laterally bulging, but not sharply so; abdomen with fine bristles near tip; hind tibiae with a few minute bristles above, a median and shorter lateral rows, long spur about one-half of basitarsus.

In fore wings the marginal cell is much less than its length from the wing-tip, second submarginal cell not twice as long as high, receiving the first recurrent vein a little beyond the middle, third submarginal about one-half longer than second, and much wider at tip, receiving the second recurrent a little before middle, basal vein ends plainly before the transverse; in hind wings the anal vein ends much before cubital fork.

Length of fore wing 6 mm.

Females from Kamakusa (Lang, Bequaert), and Bartica, January 17, 1913 (Cornell), both British Guiana.

***Priocnemella eurytheme* sp. nov.**

In general coloration, the short fourth antennal joint, the short inner spur of hind tibia, the shape of clypeus, and golden pubescence this species is close to *Salix hexagonus* Fox. The golden pubescence, however, is more extensive; it is on face, the clypeus when viewed from above, golden band on hind margin of pronotum,

golden on mesonotum, middle spot on metanotum just behind the scutellum, also basal band and two large apical spots on the propodeum. A spot on pleura is golden to silvery, and there is a silvery sheen on sternum and coxae.

The lower margin of clypeus is about equally three-sided, the middle portion truncate; fourth joint of antennae much shorter than the third, and shorter than the joints beyond; face moderately narrow, orbits nearly parallel, hind ocelli much closer to each other than to eyes; pronotum arcuate behind; scutellum convex; propodeum about as broad as long, somewhat narrowed behind, no median furrow, from side evenly convex, at the turn are a few rather large transverse ridges, from side some very fine and very short hairs are scarcely noticeable.

Abdomen steel blue, metallic, some long hairs toward tip, venter with much long hair, and patches of dense and very short hair; legs black, front tarsi faintly brownish; hind tibiae with a row of very short bristles arising from a very low carina, but no distinct teeth; long spur of hind tibiae little more than a fourth of the basitarsus.

Fore wings with marginal cell long and sharp-pointed, widest at end of second submarginal cell, latter a little narrowed towards tip, base oblique, almost one and one-half times as long as broad, receiving the first recurrent a little before tip; third submarginal about twice as long and much wider at tip, narrowed one-third above, receiving the second recurrent vein (slightly curved) at about middle.

Length of fore wing 15 to 17 mm.

Two females, one from British Guiana, other Tropical Research Station at Kartabo, No. 117.

Related to *hexagonus* Fox which probably belongs to this genus.

*Priocnemella difformis* sp. nov.

Black throughout; head and thorax with bluish iridescence; wings somewhat violaceous; abdomen shining blue-black; clothed heavily with moderately long black hair on head above and below, pronotum, propodeum, pleura, all coxae, and venter of abdomen, a few on basal part of first segment above, on last segment with some long hairs, and with short hair above.

Clypeus punctate, lower edge slightly convex, not three times as broad as long; face slightly narrowed above, antennae slender, second and third joints together equal to vertex-width, ocelli in a low triangle, hind ones very much nearer each other than to eyes, the beard is a small group of slightly upcurved bristles; pronotum short, slightly angulate behind; metanotum elevated in middle and with erect

hairs, a few on hind part of scutellum, sides of metanotum not striate; propodeum rather low and evenly curved, from above as broad as long, with faint median groove.

Basal segment of abdomen rather long, petiolate, the petiole with concave sides. Legs slender, hind tibiae almost without spines, above, only a few extremely minute ones nearer outer side, a low carina near inner edge, inner spur hardly more than one-fourth of the basitarsus; mid-tibiae with some stouter, more distinct spines.

Fore wing with the marginal cell long, about two-thirds its length from wing-tip, hardly broader than the second submarginal cell, latter one and one-half times as long as broad, base curved, oblique, receiving the first recurrent vein near apical third; third submarginal almost twice as long as second below, at widest about twice as broad as second, narrowed one-third above, the outer side strongly oblique and faintly sinuous, its tip about one-third its length from outer border, receiving the second recurrent (slightly curved) at middle; basal vein but little oblique, ending much before the transverse; in hind wing the anal vein ends at or just beyond forking of cubitus.

Length of fore wing 16 mm.

Holotype from Kamakusa, paratypes from Iquitos San Rouge, Peru, April; and Buenavista, Santa Cruz, Bolivia. In appearance much like *Phanocheilus pilifrons* Cam. and *Priochilus imperius* but differing very much in characters of mid- and hind tibiae and last tarsal joint. It is larger than indicated by Fabricius for *captivus*, and he does not mention bluish body nor violaceous wings.

PSAMMOCHARINAE.

The genera can be tabulated as follows:

1. With a line or sigma on middle of posterior part of pronotum..... 2  
No such sigma..... 3
2. Posterior part of propodeum humped each side.....*Arachnophroctonus*  
Posterior part of propodeum evenly rounded .....*Batazonus*
3. Pronotum elongate, front femora thickened, abdomen compressed, but two submarginal cells, no spines under last joint of mid- and hind tarsi.....*Planiceps*  
Pronotum not elongate..... 4
4. Clypeus emarginate in middle..... 5  
Clypeus not emarginate..... 6
5. Fore wings folding lengthwise; no spines under last joint of mid- and hind tarsi; thorax without hair.....*Aplochaeres*  
Fore wings not folding lengthwise; spines under last joint of mid- and hind tarsi .....*Notiochaeres*

6. No spines under last joint of mid- and hind tarsi; tip of abdomen with a few fine hairs; female with a tarsal comb; male with claws cleft.....*Sericeopompilus*  
Spines under last joint of mid- and hind tarsi; tip of abdomen with some stiff bristles ..... 7
7. Propodeum bare; marginal cell short .....*Pompilinus*  
Propodeum hairy..... 8
8. Female with a tarsal comb.....  
.....*Psammochares*  
Female without tarsal comb.....*Anoplius*

***Batazonus decedens* Sm.**

From Kartabo, No. 2121, February 26, March 4, June 3. Also recorded from Santarem and Para, Brazil.

***Batazonus fervidus* Sm.**

Kartabo, March 24, June 30, No. 24688; Bartica, February 4. Also recorded from Brazil.

***Batazonus polistoides* Sm.**

Kartabo, Nos. 1920(2); 282, 20945, May 14, 29; Rio Mazaruni, Forest Settlement, September, Demerara River, February 18, March 8, 19; Bartica, January 16, 27, February 12. Also recorded from Brazil.

***Arachnoproctonus crassidentatus* Cam.**

Described from Demerara. One from Kartabo, June 11, appears to be the same as *A. vulpes* Fox.

***Psammochares inculcatrix* Cam.**

Described from Demerara; specimen before me from Surinam; it is close to and perhaps identical with more southern *P. triquetrus* Fox.

***Psammochares echinatus* Fox.**

Kartabo, No. 22136; July 23, October 10, May 18, March 27; Bartica, January 29, April 14; West Bank Demerara River, February 9. Also recorded from Brazil. The male is structurally very close to *P. ornamentus*, and with the fore wings entirely black.

***Psammochares ornamentus* Fox.**

Bartica, February 11, 24, 26, January 28; Kartabo, May 27, July-August; Essequibo River, June 26. Also recorded from Brazil. The size of the pale area in middle of wing varies, and so might be a variety of *echinatus*; there are slight differences in venation which I doubt will be constant; all specimens are males.

***Notiochares amethystina* Fabr.**

Kartabo, August 5, 1920 (2 spp); July 29, 1920; September 1, 1922; April 28,

1919; Penal Settlement, Nos. 320, 329; Tropical Research Station, Nos. 2045, 2048, 20306, 20307, 21105; Bartica, May 21, 1924.

This species is widely distributed from Paraguay to Colombia, and there are numerous specimens in the collection from British Guiana. Cameron's record of *imperialis* doubtless refers to this common species. In the forked subgenital plate and the short band of velvety hair it is extremely similar to *N. philadelphica* of the United States. A variety, less blue and covered with sericeous pile especially prominent on the propodeum, from Arakaka, does not differ from the typical in other characters.

***Aplochares* gen. nov.**

Clypeus elevated, convex, lower margin with a deep rounded emargination in middle; female with a comb, spines slender; mid- and hind tibia with slender spines; claws toothed; last joint of tarsus below with a few teeth in middle; wings tend to fold lengthwise as in *Episyrion*; marginal cell not its length from tip of wing, basal vein interstitial with the transverse, thorax, pleura and propodeum without hair; head bare, except two or three erect hairs each side on vertex; abdomen with fine hairs at tip; antennae slender. Type *Pompilus imitator* Smith. Differs from *Lophopompilus* and *Notiochares* (which also have emarginate clypeus) by absence of stiff bristles at tip of abdomen, the folding wings and absence of hair on much of body.

***Aplochares imitator* Sm.**

One from Kartabo, October 11. Also recorded from Brazil.

***Sericopompilus exilis* sp. nov.**

Male. Black with much sericeous pubescence especially on face, clypeus, pronotum and propodeum; pronotum with white band behind; abdomen with whitish spot each side on base of second and third segments, and last dorsal segment also white; legs mostly black; front tarsi paler, hind tibia with a whitish streak on basal half above, mid- and hind spurs white, front ones more rufous.

Wings hyaline, fore wings with dark band over basal and transverse veins, and a broader one occupying all but the base of marginal cell, apical half of second submarginal, apical part of third discoidal, and extending to tip of wing, where, however, it is much less dark than the beginning; hind wing with extreme tip dark; antennae often somewhat rufous toward base.

Lateral ocelli about as close to eyes as to each other; antennae thick, short; not reaching tip of scutellum; hardly any erect hairs on head, thorax, or propodeum, only the ap-

pressed pubescence; propodeum with median furrow; abdomen compressed particularly toward tip, no long hairs at tip; mid- and hind tibiae with a few moderately long spines above, and between the two main rows there is a more or less complete row (sometimes but two or three) of very much smaller spines, inner spur of hind tibia three-fourths as long as basitarsus, claws cleft.

In fore wing the marginal cell is pointed, and hardly its length from wing-tip; but two submarginals, no trace of third, the second fully half the length of the marginal cell below, but narrowed each end above, receiving the first recurrent plainly before middle, and the second recurrent (straight) a little before tip; basal vein interstitial or nearly so with the transverse. In hind wing the anal vein ends much before forking of cubitus.

Length of fore wing 6.5 to 7 mm.

Type from Bartica, British Guiana, March 20 (Cornell); paratype, Zanderij, Para district, Surinam, April 27.

*Planiceps pertyi* sp. nov.

Black; head and thorax with fine short pale pile which on hind part of pronotum, posterior part of mesonotum, and a broad streak each side on propodeum is yellowish, in some views almost golden. The second, third and fourth segments of abdomen have a pale yellowish spot each side, and the last segment has a median streak, almost white. The fore wings are yellowish, the hind pair less distinctly so; veins, except costal, mostly pale; in fore wings is a brown mark over basal vein, extending almost half way out in the second discoidal cell; another broader brown band occupies all but base of marginal cell, half of second submarginal and a like distance beyond, the two bands separated by more than the width of the outer band; tips of both wings faintly brown.

Clypeus proportionally a little longer than in *herberti*; front ocellus in a deep pit; hind ocelli about as near eyes as to each other; vertex fully as broad as the third plus fourth joints of the antennae; pronotum long, sides rounded, with distinct scattered punctures above; propodeum more slender than in *herberti*; abdomen very slender, with a few very fine hairs toward tip, and some along venter, mostly toward tip, front femora very broad.

Venation of fore wings much as in *herberti*, but the basal vein rather more bulging basally; hind wings also similar.

Length of fore wing 10 mm.

From Kartabo, April 13. Paratypes from Demerara River, March 24 (Cornell) and Tropical Research Station, No. 20655. (Beebe.)

*Anoplius varius* Fabr.

One male from Kartabo. Also recorded from Brazil.

The abdomen differs from that of *P. echinatus* and *P. ornamentus* in lacking the pale band on fourth segment as noted by Fabricius. The fore wings are dark only at tip; the male has a hair brush on the fourth ventral segment.

*Pompilinus orthodes* sp. nov.

Head, thorax, legs, antennae black, wings dark fuscous, abdomen with first three segments rufous, others black, extreme base of first segment black. Clypeus, and lower face silvery, coxae also somewhat silvery; few short hairs on vertex and pronotum, a row of longer hairs on clypeus, tip of abdomen above with stiff black bristles, venter with a few hairs.

Clypeus about three times as broad as long, lower edge truncate; face rather long and narrow; vertex-width hardly equal to second plus third antennal joints; pronotum an even curve to front, behind angulate in middle; propodeum a trifle longer than broad, from side an even curve, no hair.

Abdomen rather long, tip not compressed; legs smooth, a few very short, stiff bristles above on front femora, spines on basitarsus very short; mid-tibia with two rows of spines, outer row very stout; hind tibia with two rows of spines, inner row the longer, inner spur equal to half of basitarsus; claws toothed. In fore wings the marginal cell triangular, more than its length from wing-tip, second submarginal cell as broad as long below, shorter above, receiving the first recurrent vein at apical third; third submarginal cell nearly as long below as second, almost to a point above, fully twice its length from margin of wing, receiving the second recurrent (almost straight) at middle; basal vein interstitial with transverse; in hind wing the anal vein ends at forking of the cubitus.

Length fore wing 8.5 to 10 mm.

Two females, Georgetown, September 29 (Bequaert), and Kartabo, July-August (Wheeler).

NOTOCYPHINAE.

*Notocyphus vindex* Lucas.

One from Kaieteur, August 11. Also recorded from Brazil.

*Notocyphus tyrannicus* Lucas.

Recorded by Williams from British Guiana (Studies in Tropical Wasps, 1926, p. 133). Also recorded from Brazil.

Besides the above, Cameron describes two species from Demerara which I have not recognized in any material available to me, *Priocnemis curtispinus*, *Pompilus demeraraensis*.